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EXAMINER				
CHRISS, ANDREW W				
ART UNIT		PAPER NUMBER		
2472				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/505,227

Applicant(s)

COUTURIER, ALBAN

Examiner

ANDREW CHRISS

Art Unit

2472

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's response, filed April 21, 2010, has been carefully considered. Claims 1-14 are currently pending.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. **Claims 1, 5-7, 9, 12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oosthoek et al (United States Patent Application Publication US 2002/0156599 A1), hereinafter Oosthoek, in view of Karagiannis et al (United States Patent Application Publication US 2002/0087699 A1), hereinafter Karagiannis.

Regarding Claims 1, 9, and 14, Oosthoek discloses an ingress node 16 that performs functionalities equivalent to Applicant's claimed means for receiving, control means, means for correlating, and means for communicating. Specifically, the ingress node comprises a per aggregate flow QoS management system (paragraph 0019), wherein an ingress node accepts flows of traffic to be aggregated in respective reservation states or classes (paragraph 0018). Further microflows are associated with requests comprising performance demands, such as bandwidth assurance, delay, and packet losses (paragraph 0017). When resource requests associated with individual microflows are received at an ingress node, they are grouped together for a resource request for an interior network (paragraph 0020). The reservation request on the internal network specifies an aggregated state to which it pertains, such as a DiffServ DSCP

service class (paragraph 0020). The reservation request is carried out by sending a single resource request through the interior network to an egress node (paragraph 0020). A decision is then made as to whether to reserve the resources associated with the request (paragraphs 0020 and 0021). However, Oosthoek does not disclose effecting control of the network elements for a set of microflows. In the same field of endeavor, Karagiannis discloses an aggregator at the ingress to a Diffserv domain that aggregates resource requests without the need for resizing an aggregated state for network elements in the domain (Figures 4 and 13, paragraphs 0125-0133); therefore, for an aggregated state across the domain, the network elements are controlled once (e.g., at establishment of the state). It would have been obvious to combine the aggregated state maintenance without the need for resizing with the resource reservation disclosed in Oosthoek in order to minimize the amount of control traffic across a network and reduce the number of states that each core router must maintain (see paragraph 0040 of Karagiannis).

Regarding Claim 5, Oosthoek discloses granting a resource request if the resources are available, and denying the request if resources are not available (paragraphs 0020 and 0021), equivalent to Applicant's claimed "atomic" network monitoring.

Regarding Claim 6, Oosthoek discloses determining whether resources are available prior to making a change in a specified aggregated reservation state (paragraph 0020).

Regarding Claims 7 and 12, Oosthoek discloses an edge-to-edge aggregated reservation request wherein the individual flows are transparent to interior nodes on the network (paragraph 0020), equivalent to the claimed limitation of sharing bandwidth among correlated quality of service requests.

4. **Claims 2, 3, 10, and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oosthoek in view of Karagiannis, as applied to Claims 1 and 9 above, and further in view of Trans et al (United States Patent Application Publication US 2003/0016770 A1), hereinafter Trans. The combination of Oosthoek and Karagiannis discloses all of the limitations of Claims 1 and 9, as described above. However, the aforementioned references do not disclose correlating microflows by comparing 5-tuples or source/destination addresses. In the same field of endeavor, Trans discloses providing quality of service on a per aggregate basis, wherein the aggregate is a set of two or more flows that share a common attribute (e.g., 5-tuple comprising source and destination address (paragraphs 0833-0834)). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the 5-tuple-based aggregation disclosed in Trans with the resource reservation disclosed in Oosthoek, as modified above, in order to provide a level of assurance for consistent network data delivery (see paragraph 0030 of Trans).

5. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Oosthoek in view of Bolding et al (United States Patent 7,272,651), hereinafter Bolding. The combination of Oosthoek and Karagiannis discloses all of the limitations of Claims 1 and 9, as described above. However, the aforementioned references do not disclose a control means comprising a software module remote from a correlation means communicating via a communication protocol. In the same field of endeavor, Bolding discloses a router comprising separate modules (Figure 3), including a differentiated service entity 332 (correlating means) remote from an RSVP transmitter proxy 318 (control means). Further, Bolding discloses that the RSVP transmitter proxy 318 operates in accordance with RFC 2205 (column 7, lines 22-26), which is known to

one of ordinary skill in the art to comprise program instructions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the RSVP reservation disclosed in Bolding with the aggregated resource reservation requests disclosed in Oosthoek, as modified above, in order to reserve network resources on behalf of a multimedia server lacking RSVP capabilities.

6. **Claims 8 and 13** rejected under 35 U.S.C. 103(a) as being unpatentable over Oosthoek in view of Karagiannis, as applied to Claims 1 and 9 above, and further in view of Mohaban et al (United States Patent 6,788,647), hereinafter Mohaban. The combination of Oosthoek and Karagiannis discloses all of the limitations of Claims 1 and 9, as described above. However, the aforementioned references do not disclose anticipating microflows of return packets and to consider them to determine the correlated resource reservation requests. In the same field of endeavor, Mohaban discloses bi-directional QoS treatment for network data flows, wherein a packet is identified by its 5-tuple (source and destination IP address, source and destination port, and protocol) and given a quality of service treatment if a node determines that the packet is part of an already observed packet flow (column 8, lines 40-60; Figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the bi-directional QoS treatment disclosed in Mohaban with the aggregated resource reservation disclosed in Oosthoek, as modified above, in order to provide quality of service for bi-directional communications, such as symmetrical video conference call.

Response to Arguments

7. Applicant's arguments filed April 21, 2010 regarding rejection of Claims 1, 9, and 14 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Applicant states that the aggregation of resource requests without the need for resizing disclosed in Karagiannis does not correspond to the feature of effecting said control of said elements of said data network only once for the quality of service requests of each said set. Examiner respectfully disagrees. Karagiannis discloses an exemplary Intserv/Diffserv operation when RSVP aggregated states are available in the bandwidth broker for traversal through intermediate Intserv domains (Figure 13 and paragraph 0125). When a new end-to-end RSVP request arrives at a bandwidth broker aggregator, this request does not require the resizing of existing RSVP aggregated states (i.e., correlated microflows) (paragraph 0126). Therefore, the control of the network elements (i.e., the RSVP bandwidth reservation for an aggregated state) is effected only once for a set of correlated microflows (i.e., set up and not resized when a new end-to-end request is received at the bandwidth broker aggregator). Applicant further states that "any aggregation of resource requests is simply controlling the requests and how they are utilized in a particular network and does not involve the controlling of the elements of the data network." Examiner notes that the "control of the network elements" is not further defined in the claim language so as to require the steps to be passive/active or direct/indirect in nature. As such, given its broadest reasonable interpretation in light of the specification without unnecessarily importing limitations that are not recited in the claim language (see MPEP 2106), Examiner interprets the control of the network elements to be a reservation of resources on the internal network at the establishment of the path. The combination of aggregation of microflows in Oosthoek based on performance demands (e.g., bandwidth assurance, delay) (paragraphs 0017-0020) and the bandwidth broker aggregation

disclosed in Karagiannis (i.e., setting up an RSVP path based on a received end-to-end path request) renders the claim limitation “effects control of said data network” obvious. Applicant further states that “any aggregation of resource requests in Karagiannis does not necessarily correspond to quality of service requests of a set of a plurality of correlated microflows.”

Examiner respectfully disagrees. Karagiannis discloses reserving an end-to-end path for RSVP aggregated states through intermediate Intserv domains (paragraphs 0125-0132), wherein an aggregated state represents the aggregation of individual reserved sessions into a common class and across transit domains (i.e., a set of a plurality of correlated microflows) (paragraph 0015). Rejection of Claims 1, 9, and 14 under 35 U.S.C. 103(a) is therefore maintained.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW CHRISS whose telephone number is (571)272-1774. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Chriss
Examiner
Art Unit 2472
7/8/2010

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